

**Louisiana Department of Environmental Quality (LDEQ)
Office of Environmental Services**

STATEMENT OF BASIS

**Terrebonne Parish Consolidated Government
Houma Municipal Power
Houma, Terrebonne Parish, Louisiana
Agency Interest Number: 8838
Activity Number: PER20080001
Proposed Permit Number: 2880-00022-V1**

I. APPLICANT

Company:

Houma Municipal Power
PO Box 2768
Houma, Louisiana 70361-2768

Facility:

Terrebonne Parish Consolidated Government
1551 Barrow St
Houma, Terrebonne Parish, Louisiana
Approximate geographic coordinates: 29° 34' 37" North, 90° 43' 27" West

II. FACILITY AND CURRENT PERMIT STATUS

Houma Municipal Power, an existing power generation facility, began operation in 1969. The Houma Municipal Power currently operates under Permit No. 2880-00022-V0, issued May 4, 2004.

In addition, Acid Rain Permit No. 2880-00022-IV1, was also issued to the facility on January 18, 2005.

III. PROPOSED PROJECT/PERMIT INFORMATION

Application

A permit application and Emission Inventory Questionnaire were submitted by Terrebonne Parish Consolidated Government on October 24, 2008, requesting a Part 70 operating permit renewal and minor modification. Additional information dated June 15, 2009 was also received.

Project

Houma Municipal Power operates as a prime power plant, which supplies electrical power to the city of Houma, Louisiana. Electricity is generated through units, which are driven by steam produced by three natural gas-fired boilers (EQT 9 – EQT 11).

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Other sources of emissions at the facility are cooling towers, a bulk diesel tank, and sulfuric acid tote tanks.

With this modification, Houma Municipal Power proposes to:

- Renew its Part 70 and Acid Rain Permits;
- Remove eight (8) emergency generator engines (EQT 1 – EQT 8) from the facility;
- Remove the sulfuric acid tank (EQT 16) and replace it with sulfuric acid tote tanks (EQT 18); and
- Calculate emissions using updated emission factors. This includes the speciation of Toxic Air Pollutants.

Proposed Permit

Permit 2880-00022-V1 will be the renewal and minor modification of Part 70 Operating Permit No. 2880-00022-V0 for the Houma Municipal Power Plant.

Permitted Air Emissions

Estimated emissions in tons per year are as follows:

Pollutant	Before	After	Change
PM ₁₀	43.65	62.83	+ 19.18
SO ₂	7.98	2.08	- 5.90
NO _x	833.89	694.72	- 139.17
CO	287.61	250.31	- 37.30
VOC*	29.68	20.48	- 9.20

<u>*VOC LAC 33:III Chapter 51 Toxic Air Pollutants (TAPs):</u>		<u>Non-VOC LAC 33:III Chapter 51 Toxic Air Pollutants (TAPs):</u>	
Pollutant	Emissions	Pollutant	Emissions
Acetaldehyde	0.005	Arsenic (and compounds)	0.003
Benzene	0.007	Barium (and compounds)	0.015
Dichlorobenzene	0.004	Beryllium (Table 51.1)	0.003
Formaldehyde	0.258	Cadmium (and compounds)	0.004
n-Hexane	6.176	Chromium VI (and compounds)	0.005
Naphthalene	0.003	Cobalt compounds	0.003
Polycyclic Organic Matter (POM)	0.003	Copper (and compounds)	0.003
Toluene	0.012	Manganese (and compounds)	0.003
		Mercury (and compounds)	0.003
		Nickel (and compounds)	0.006
		Selenium (and compounds)	0.003

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<u>*VOC LAC 33:III Chapter 51 Toxic Air Pollutants (TAPs):</u>		<u>Non-VOC LAC 33:III Chapter 51 Toxic Air Pollutants (TAPs):</u>	
Pollutant	Emissions	Pollutant	Emissions
		Sulfuric Acid	0.001
		Zinc (and compounds)	0.100
Total	6.468		0.152

IV REGULATORY ANALYSIS

The applicability of the appropriate regulations is straightforward and provided in the Specific Requirements section of the proposed permit. Similarly, the Monitoring, Reporting and Recordkeeping necessary to demonstrate compliance with the applicable terms, conditions and standards are also provided in the Specific Requirements section of the proposed permit.

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Applicability and Exemptions of Selected Subject Items

ID No.	Requirement	Note
EQT 9	Acid Rain Program [40 CFR 72]	EXEMPT. Serves a generator with capacity less than or equal to 25 MWe. Burns fuel with an annual average sulfur content less than or equal to 0.05% by weight. Source must still comply with 72.2-72.6 and 72.10-72.13 per 72.7(b)(1).
EQT 10	NSPS Subpart D - Standards for Performance for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced After August 17, 1971 [40 CFR 60 Subpart D]	EXEMPT. Construction on this unit began in 1969. The unit has not been modified.
EQT 12 EQT 13 EQT 14	NESHAP Subpart Q - Industrial Process Cooling Towers [40 CFR 63 Subpart Q]	Does not apply- Cooling tower does not use chromium-based water treatment chemicals.
EQT 9 EQT 10 EQT 11 EQT 17	Control of Emissions of Sulfur Dioxide [LAC 33:III.1503]	DOES NOT APPLY. Units emit less than 5 tons per year of SO ₂ . [LAC 33:III.1502.A.3]
EQT 17	Subpart IIII—Standards of Performance for Stationary Compression Ignition Internal Combustion Engines [40 CFR 60 Subpart IIII]	DOES NOT APPLY. Engine was constructed prior to July 11, 2005. [40 CFR 60.4200(a)(2)]
EQT 15	Subpart K—Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978 [40 CFR 60 Subpart K]	DOES NOT APPLY. Contents of tank have a vapor pressure of less than 1.0 psia. [40 CFR 60.113(d)(1)]

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Prevention of Significant Deterioration(PSD)/Nonattainment Review

Emission rates are not being increased by this project in amounts that exceed the respective significant levels for each pollutant. PSD review is not required.

MACT Requirements

Houma Municipal Power Plant is a minor source of toxic air pollutants (TAPs) pursuant to LAC 33:III.Chapter 51. Therefore, MACT is not required.

Air Quality Analysis

Emissions associated with the proposed modification were reviewed by the Air Quality Assessment Division to ensure compliance with the NAAQS and AAS. LDEQ did not require the applicant to model emissions.

General Condition XVII Activities

The facility will comply with the applicable General Condition XVII Activities emissions as required by the operating permit rule. However, General Condition XVII Activities are not subject to testing, monitoring, reporting or recordkeeping requirements. For a list of approved General Condition XVII Activities, refer to the Section VIII – General Condition XVII Activities of the proposed permit.

Insignificant Activities

All Insignificant Activities are authorized under LAC 33:III.501.B.5. For a list of approved Insignificant Activities, refer to the Section IX – Insignificant Activities of the proposed permit.

V. PERMIT SHIELD

There is no permit shield.

VI. PERIODIC MONITORING

Periodic Performance/Stack Testing Requirements

The three natural gas-fired boilers (EQT 9, EQT 10, and EQT 11) are required to conduct periodic performance/stack tests to verify that the boilers continue to operate within their permitted emissions limits. Each of the boilers is required to conduct a performance test once every five years that will determine the emissions of carbon monoxide.

Additionally, Boiler Unit No. 14 (EQT 9) is required to conduct a performance test once every five years that will determine the emissions of nitrogen oxides. Boiler Unit No. 15 (EQT 10) and Boiler Unit No. 16 (EQT 11) are not required to perform a nitrogen oxides performance test because they are equipped with a nitrogen oxides continuous emissions monitoring system (CEMS) that continuously monitors the emissions of nitrogen oxides.

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Before any of the above referenced tests are conducted, LDEQ must be notified thirty days in advance so that LDEQ can observe the stack test. After the test is conducted, Houma Municipal Power Plant is required to submit a report to LDEQ that shows the results of the test.

VII. GLOSSARY

Carbon Monoxide (CO) – A colorless, odorless gas, which is an oxide of carbon.

Maximum Achievable Control Technology (MACT) – The maximum degree of reduction in emissions of each air pollutant subject to LAC 33:III.Chapter 51 (including a prohibition on such emissions, where achievable) that the administrative authority, upon review of submitted MACT compliance plans and other relevant information and taking into consideration the cost of achieving such emission reduction, as well as any non-air-quality health and environmental impacts and energy requirements, determines is achievable through application of measures, processes, methods, systems, or techniques.

Hydrogen Sulfide (H₂S) – A colorless inflammable gas having the characteristic odor of rotten eggs, and found in many mineral springs. It is produced by the reaction of acids on metallic sulfides, and is an important chemical reagent.

New Source Review (NSR) – A preconstruction review and permitting program applicable to new or modified major stationary sources of air pollutants regulated under the Clean Air Act (CAA). NSR is required by Parts C (“Prevention of Significant Deterioration of Air Quality”) and D (“Nonattainment New Source Review”).

Nitrogen Oxides (NO_x) – Compounds whose molecules consist of nitrogen and oxygen.

Organic Compound – Any compound of carbon and another element. Examples: Methane (CH₄), Ethane (C₂H₆), Carbon Disulfide (CS₂)

Part 70 Operating Permit – Also referred to as a Title V permit, required for major sources as defined in 40 CFR 70 and LAC 33:III.507. Major sources include, but are not limited to, sources which have the potential to emit: ≥ 10 tons per year of any toxic air pollutant; ≥ 25 tons of total toxic air pollutants; and ≥ 100 tons per year of regulated pollutants (unless regulated solely under 112(r) of the Clean Air Act) (25 tons per year for sources in non-attainment parishes).

PM₁₀ – Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured by the method in Title 40, Code of Federal Regulations, Part 50, Appendix J.

Potential to Emit (PTE) – The maximum capacity of a stationary source to emit any air pollutant under its physical and operational design.

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Prevention of Significant Deterioration (PSD) – A New Source Review permitting program for major sources in geographic areas that meet the National Ambient Air Quality Standards (NAAQS) at 40 CFR Part 50. PSD requirements are designed to ensure that the air quality in attainment areas will not degrade.

Sulfur Dioxide (SO₂) – An oxide of sulfur.

Sulfuric Acid (H₂SO₄) – A highly corrosive, dense oily liquid. It is a regulated toxic air pollutant under LAC 33:III.Chapter 51.

Title V Permit – See Part 70 Operating Permit.

Volatile Organic Compound (VOC) – Any organic compound, which participates in atmospheric photochemical reactions; that is, any organic compound other than those, which the administrator of the U.S. Environmental Protection Agency designates as having negligible photochemical reactivity.